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Chapter 9: "My treasure box": Pedagogical documentation, digital portfolios and children's agency in Finnish early years education (Dr. Kristiina Kumpulainen & Dr. Najat Ouakrim-Soivio, University of Helsinki)

Abstract: This chapter discusses the opportunities and challenges associated with the inclusive use of digital portfolios in pedagogical documentation in Finnish early childhood education (ECE), and examines children's participation and agency in the process. To this end, we draw on empirical data from the research and development programme of three Finnish municipalities and their ECE centres. Altogether, the empirical data comprise the digital portfolios of 71 children from six ECE groups each comprising of children aged 3 to 5 years old. We demonstrate how the construction of digital portfolios in these ECE groups produced a dynamic tension between the adults' and children's agency; between digital archiving and narrative documentation of the children's lived experiences; and between documentation and reflection. The results also indicate how digital portfolios created inequality among the children regarding the ways in which the children were seen and heard in their portfolios, and how they were able to participate and demonstrate agency in this process. The chapter concludes by considering the conditions of participatory work in ECE classrooms in which the child's agency matters.

Chapter 9: "*My treasure box*": Pedagogical documentation, digital portfolios and children's agency in Finnish early years education

Introduction

In Finland, early years education (ECE) is a universal public service that is based on the principles of social justice and equity. Its primary goal is to support every child's holistic development and learning together with parents/guardians (Kumpulainen, 2018). High-quality Finnish ECE implements well-planned pedagogical practices and their systematic documentation via participatory work between teachers, children and their families. It thrives to recognising children's unique interests and developmental needs, appreciating the characteristics of the local contexts in which children learn and develop (National Board of Education, 2016). Quality in pedagogical practice and documentation is supported by the national ECE curriculum guidelines as well as by an educated and skilled ECE workforce.

The goal of pedagogical documentation in the Finnish ECE is to support inclusive participatory work entailing interaction and knowledge exchange among the people in children's lives, and joint reflection on the quality of ECE and its connection to children's learning, development and wellbeing (see also Edwards, Gandini, & Forman 1998). Pedagogical documentation is embedded in the values of the Finnish ECE, which consider childhood a unique and precious phase in human life that must be cherished in its own right. From this perspective, each child has the right to be heard, seen, recognised and understood as a unique individual and as a member of his or her community (National Board of Education, 2016).

In the research literature, pedagogical documentation is defined as a tool for participatory work that can enhance the quality of ECE that is reflexive, interactive and based on social justice and equity (Dahlberg, Moss & Pence, 2007). Pedagogical documentation strives to make ECE practices visible and is especially interested in the child's participation and perspective. Pedagogical documentation can offer teachers, other ECE personnel and parents/guardians information about the child's interests as well as his or her self-image as a learner and as a unique individual. This knowledge can be harnessed for the development of ECE pedagogy to meet each child's interests and needs. Observation and documentation of the child's perspectives, experiences and knowledge can make each child and his or her activity and thoughts meaningful and important (Cook & Hess, 2007; Karlsson, 2012).

In the Finnish ECE, pedagogical documentation is conceptualised as a collective and co-constructed endeavour between the child, teacher and parents/caregivers for enhancing participatory knowledge exchange, reflection and learning. The main principle is to consider children as active agents in documenting and reflecting upon their interests, strengths and learning progressions in collaboration with their teachers and parents/caregivers in multimodal ways (Kumpulainen, Lipponen, Hilppö, & Mikkola, 2014). Overall, the Finnish ECE resonates with participatory research methodologies and childhood studies in general that position children at the centre of pedagogical attention and practice (Christensen & James, 2008). Thus, the child can be viewed as an active agent and a recognised participant in ECE.

Earlier research has pointed out that an important dimension of pedagogical documentation is the collective interpretation and reflection of the documented material (Rinaldi, 1998). In fact, reflection distinguishes pedagogical documentation from mere archiving of documents (Rintakorpi, 2018). According to Dahlberg et al. (2007), pedagogical

documentation should not be confused with standardised observation methods, as pedagogical documentation emphasises the situated nature of human activity. Thus, pedagogical documentation can be seen as an effort to make children and their activities and worlds visible in multiple ways and modes situated in the sociocultural context.

In this chapter, we are interested to make visible the opportunities and challenges associated with the practices of pedagogical documentation in the everyday life of Finnish ECE. We are particularly interested in how digital portfolios are used in ECE classrooms for inclusive participatory practice. Our work aligns with efforts to understand and design for inclusive documentation practices in the everyday life of ECE classrooms.

Digital portfolios as a means of pedagogical documentation

Digital portfolios are attracting increased attention as a means of pedagogical documentation of ECE practices (Kumpulainen & Ouakrim-Soivio, 2018). These portfolios can consist of multimodal content of the processes and products of children's activities, learning and development created via various textual, visual, digital and audio procedures (Anttila, 2013). The content of digital portfolios typically stems from children's life worlds, including home, ECE centres, field trips, hobbies and leisure time. Visual methods and artefacts, such as, the creation of drawings, photographs and videos, have gained popularity among Finnish educators and researchers as potential means for participatory work in pedagogical documentation (Kumpulainen, 2017). Visual methods are regarded as natural, child-sensitive means that can potentially communicate children's perspectives in multiple and authentic ways in their full complexity and that provide knowledge about the world as experienced by children that would be difficult, and even impossible, to gain in other ways

(Clark, 2005). Visual methods are also linked to other creative and aesthetic forms of self-expression that help the narrator find his or her voice and identity (Bragg, 2011; Brushwood Rose & Low, 2014). Lorenz (2010) defines visual artefacts as metaphors that can animate emotions and personal experiences and help children share and reflect upon their worlds. Overall, visual methods and artefacts for education are considered important in a world that is largely based on pre-described performance and accountability and in which there is little room for emotions, creativity and collective interpretation (Kumpulainen, 2017).

Altogether, digital portfolios are considered dynamic tools that can potentially capture and enhance and make visible the multidimensionality of children's learning and development in ways that more traditional educational methods cannot (Wagner, Brock & Agnew 1994; Niikko, 2000). Children's personal digital portfolios also offer the child an opportunity to reflect on and evaluate one's learning, development and wellbeing. Consequently, in the Finnish ECE, digital portfolios are considered to enhance the child's self-evaluation skills while the child can engage in organising, documenting and making sense of his or her activities, thoughts, feelings and learning via portfolio work (Ouakrim-Soivio, 2016).

In Finland, research on pedagogical documentation and the use of digital portfolios in ECE is surprisingly restricted and limited, considering that they are considered important methods of participatory ECE pedagogy in the curriculum documents and in teacher education. Kankaanranta (1998) investigated the use of portfolios to support children's transitioning to first grade and active interaction between teachers, parents/guardians and children (see also Kankaanranta & Linnakylä 1999). Rintakorpi (2010, 2018) investigated the ways in which pedagogical documentation in the Finnish ECE centres responds to the ECE curriculum and

how ECE personnel approach pedagogical documentation in their work, which refers to the meanings and purposes that ECE educators attach to pedagogical documentation.

In this chapter, we aim to extend current research knowledge on the use of digital portfolios as means of participatory work in pedagogical documentation in Finnish ECE. We ask how digital portfolios are used in the Finnish ECE centres and how children's participation, agency and reflection manifest themselves in the contents and forms of digital portfolios. To this end, we draw on empirical data from the research and development programme of three Finish municipalities and their ECE centres. We demonstrate how the construction of digital portfolios as a means of pedagogical documentation in these ECE communities produced a dynamic tension between the adults' and children's agency; between digital archiving and narrative documentation of the children's lived experiences; and between documentation and reflection.

Sociocultural theorising on children's agency

Lately, more researchers, scholars and educational providers are underscoring children's agency and involving children in educational processes and research. Childhood and children are seen as worthy of investigation in their own right and as important participants in pedagogical work as teachers and researchers in education aim to learn more about children's worlds from children themselves (Einarsdottir, Dockett, & Perry, 2009). The underlying rationale for the interest is manifold. From one perspective, it stems from initiatives that stress children's visibility and position in society and entail respecting their right to express opinions and have a say in matters that affect their lives (Lundy, 2007). Another perspective holds that listening to children's voices, that is, their meanings, experiences, opinions and perspectives in

relation to their life worlds, creates avenues for educators to learn about children and, hence, to support their holistic learning and wellbeing. Researchers have suggested that weaving children's voices into the educational process promotes educational equity and opportunity (Kumpulainen, Lipponen, Hilppö, & Mikkola, 2014; Niemi, Kumpulainen, & Lipponen, 2014).

The sociocultural framework that guides our research work on participatory work with children foregrounds agency as a social construct that derives from context. Accordingly, we conceptualise children's agency as socially constructed, meaning that children's agency is the result of a dynamic interaction between the child's life history, prior experiences and the social context in a given activity (Valsiner, 1998). Hence, there exists a relational interdependence between agency and social context. We also hold that agency can manifest itself in various actions that encompass discursive, practical and embodied relations to the world (see also Archer, 2001; 2003). Hence, agency should be analysed by focusing on the manifestation of agency in social practices, as well as on the children's interpretations, meanings and purposes in relation to their agentic actions in different social contexts.

Sociocultural theorisation of agency underscores the importance of conceptual (e.g. language) and material (e.g. artefacts) tools in mediating human interaction and sense-making (Bakhtin, 1986; Wertsch, 1991). Vygotsky (1978) explains the mediating role of tools in human interaction using the concept of double stimulation, in which an external tool is employed or created for intentional, voluntary problem-solving activities. In other words, to redefine situations, control their own actions and transform the contexts in which they act, people develop and use artefacts (Virkkunen, 2006). Using this line of thinking, we can approach digital portfolios as material tools that mediate and create opportunities for children's agency and reflection, and that can at an organisational level foster inclusive participatory practices in

ECE. We can also view digital portfolios as creating a potential social context for collective reflection between the child, ECE educators and parents/guardians.

Study

Our study uses empirical data from a one-year development project (conducted throughout 2017) of three Finnish municipalities and their ECE centres (Kirkkonummen kunta, 2018). The project was designed by the municipalities themselves to offer ECE teachers professional support and portfolio tools for the enhancement of participatory work in pedagogical documentation in their everyday work at the ECE centres. The professional support of educators consisted of courses and seminars over one academic year addressing theories and models on pedagogical documentation. These seminars took place on average once a month. The topics covered the introduction of pedagogical models that underscore the importance of documenting and reflecting on children's strengths and interests in their ECE instead of focusing only on children's developmental needs and what they cannot yet do. The education of teachers also focused on the notion of "media play" in which the teachers learned how to harness digital media in participatory, playful, child-centric and transformative ways as part of their ECE practices. Last but not least the professional development program was specifically directed to ECE center leaders/heads for managing the change processes in implementing digital portfolios in participatory ways in their ECE centers. In addition to seminar days, the educators who represented these three different municipalities and their ECE centres were also able to share their work with others in the seminar meetings and beyond, thus enhancing peer learning. There was some support at the educators' workplace for the uptake and use of the digital portfolio and digital documentation.

Altogether, the empirical data of our study comprise the digital portfolios of 71 children from six different ECE groups across three municipalities who participated in the development programme. Of these 71 children, 37 were girls (52%) and 34 (48%) were boys. All these children worked in mixed aged groups composed of children aged three to five years old. This is a typical arrangement in the Finnish ECE for these age groups. The number of children whose portfolio data were analysed for this study varied from seven to eighteen children per ECE group. These were children who had a written consent to take part in this specific study. According to the Finnish law, the maximum number of children in an ECE group for children over three years old is 24, the educator child ratio being 1:8 (Kumpulainen, 2018).

Ethical considerations

Our research follows the ethical guidelines for research set forth by the Finnish Advisory Board on Research Integrity (<http://www.tenk.fi/en>) and the University of Helsinki. The study only uses material has been authorised by the municipalities, ECE centres and children's parents/guardians. Children's participation in the research was voluntary, and the children could withdraw from the study at any time.

The digital portfolios we analysed in our study were saved in a peda.net service administered by the University of Jyväskylä in Finland. The municipalities chose this service for their portfolio work, and the ECE centres and their personnel independently archived the digital portfolios into this service without the researchers' involvement. The researchers of this article are not responsible for the service and its use. The analysis of the children's portfolios took place directly from the service to which the researchers were granted access. The research

material has not been stored elsewhere. In sum, we paid careful attention to research ethics to respect and honour the integrity of the children and their communities (Sime, 2008).

Methods

The analysis of the data was guided by our research questions, which focused on the content and purposes for which the digital portfolios were used in the ECE groups, and on the manifestation of children's agency in and reflection on the portfolio content. We analysed the data using both quantitative and qualitative methods. The quantitative analyses focused on the general qualities in the content of the portfolios, such as the number of photos and videos in each child's portfolio. The typical quantitative methods, e.g. frequency distributions and measures of central tendency and variation, were used. Differences between the six ECE groups were analysed using a one-way ANOVA test. If there were statistically significant differences, the differences in the variance analysis were also reported using eta's square (η^2) (Cohen, 1988; Cohen, Manion, & Morrison, 2002). The correlations between quantitative variables were studied using Pearson's correlation coefficients and coefficients of determination. We recognise the limitations of our quantitative analyses due to the small sample size.

The qualitative analysis of the portfolios focused on the topics and themes depicted in the portfolio content (i.e. written texts, photos and videos) to develop an understanding of the content and purposes of the portfolios in the pedagogical documentation of the ECE centres as well as the nature of children's agency and reflection in relation to their portfolios. The analysis process begun by reading all the data repeatedly to achieve immersion and obtain a sense of the whole (Tesch, 1990). Then, we began our abductive development of overall themes from the data while drawing on sociocultural theories on agency and relevant research findings on

pedagogical documentation and digital portfolios (Miles & Huberman, 1994). Altogether, our analysis involved repeated iterations between data and theory (Van Maanen et al., 2007)

Our qualitative content analysis revealed three polarities in the construction and use of the children's digital portfolios in the ECE groups; the adult's and child's agency; digital archiving and narrative documentation; documentation and reflection. Each of these thematic groupings and their polarities provide evidence of the different purposes and ways in which the portfolios were used. They also illuminate the varied opportunities children to exercise their agency and reflect on the portfolio content.

Results

Here, we discuss the findings of our study. First, by drawing on both quantitative and qualitative data, we provide an overview of the content and forms of the digital portfolios in and across the ECE groups and children. Second, we discuss our findings on the thematic dimensions depicted from our data with regards to the ways in which the digital portfolios were constructed and used in the ECE practices, as well as the nature of children's participation, agency and reflection in this process.

The nature of the digital portfolios in and across the ECE groups and children

Our findings show that the children's digital portfolios mostly consisted of photos and videos. At times, these photos and videos were accompanied by written explanatory texts. No gender differences were identified in the number of pictures and videos in the children's portfolios ($F = 0,07$, $df = 1, 3,05$; $p < 0,05$). Interestingly, there were significant differences in the number of photos in the children's digital portfolios across the different ECE groups ($F =$

18,13; $df = 5, 430, 80$; $p < 0,01$). Also, the number of videos in the children's portfolios differed significantly across the children and ECE groups ($F = 5,99$; $df = 5, 16,46$; $p < 0,001$). The ECE group explained 58% of the differences between the average number of photos per children and the ECE group explained 32% of the differences between the average number of videos per children. The number of photos in the child's digital portfolio did not correlate with the number of videos ($r_{xy} = 0,15$).

The contents of the children's personal portfolios largely documented the children's everyday life and activities in and outside of the ECE centres. For instance, the contents of the portfolios included digital photos on "a theatre trip", "first snow and a snowman", "physical jerks", "recycling", "all about my summer", "my favorite place at the ECE center", "in the forest", "snack", "our play", "playing in the yard", "in the park", "jerk play", "cake bakers", "my picture", "I am good at" and "what I want to learn" (see Figures 1-3).



Figure 1. Mathematics



Figure 2. Fifteen nights for Christmas.



Figure 3. This is what I like to do the most during my summer.

Moreover, most of the children's digital portfolios included documentation of various learning processes, such as developing a skill or developing knowledge of a certain concept (see Figures 4 and 5). Such processes were often documented via videos related to ideas and activities such as "What I want to learn", "making a concoction", "jumping on the trampoline", "water games", "silhouette dance", "singing and music performances" and "future dreams". A child's "achievement picture" served as an example of a picture in which the child shows how he or she designed his or her artefact via chain loops.

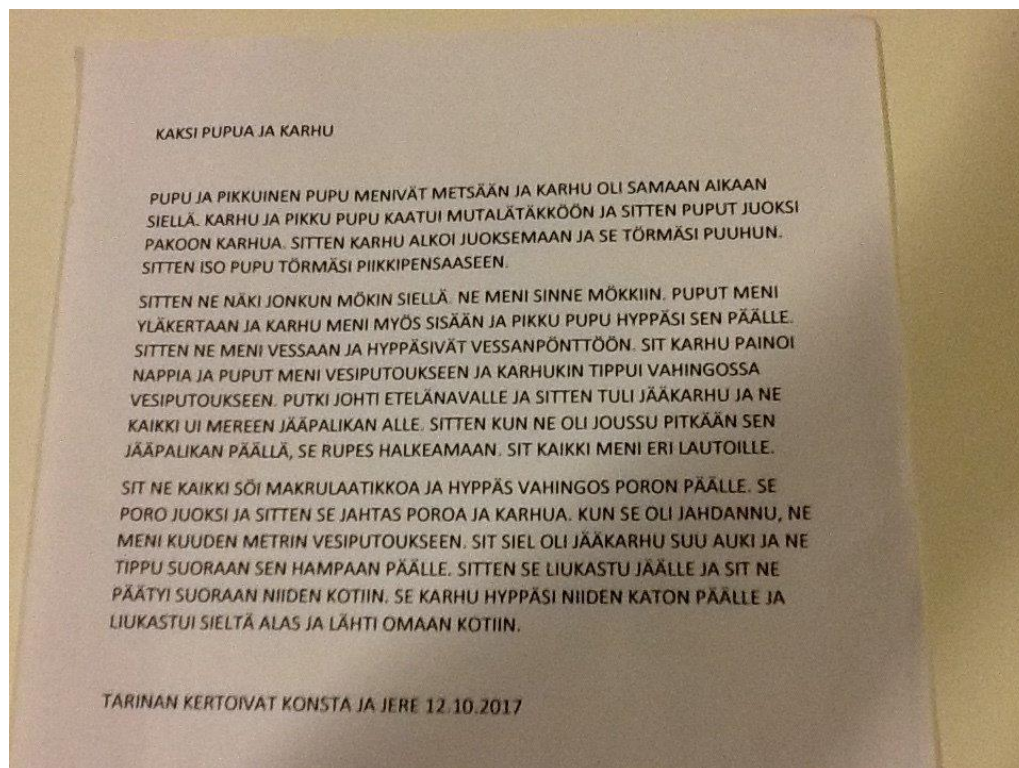


Figure 4. Storytelling was fun. Not boring at all.



Figure 5. I was so afraid when I went skating the first time. The ice was slippery. You must stay still and then I skated a little. I could not yet skate.

Typical to the children's portfolios was the documentation of the children's emotions and social relationships (see Figures 6 and 7). These materials were often entitled as "the most boring or enjoyable play" followed by a photo of a "shelter play", dodgeball or playing home. Children's emotions were also documented via titles and accompanying photos, such as "This is what I like" and "Happy moments". For these contents, the children selected pictures that depicted things they liked, such as riding a slide, woodwork and cats and dogs. In "Happy moments", the portfolio documents consisted of pictures that depicted everyday life in ECE, favorite play, birthdays and the children's achievements.



Figure 6. Saara's rule: You must not tease others or take their toys.

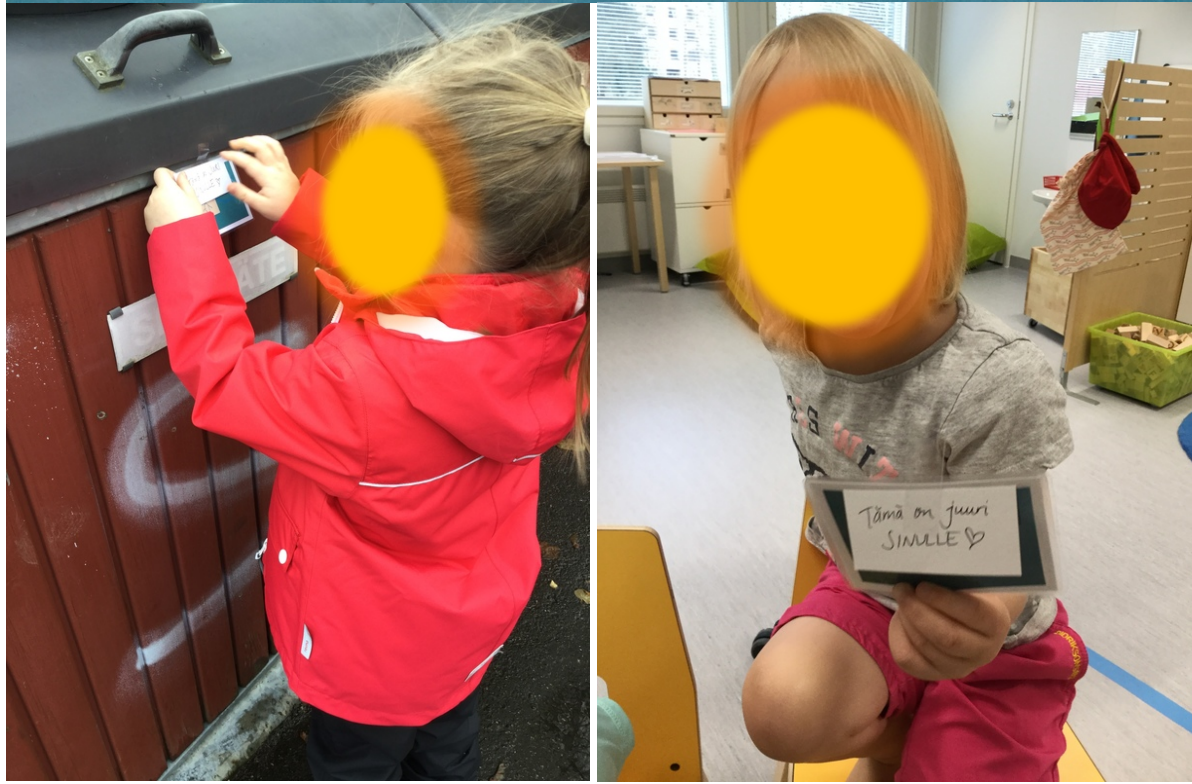
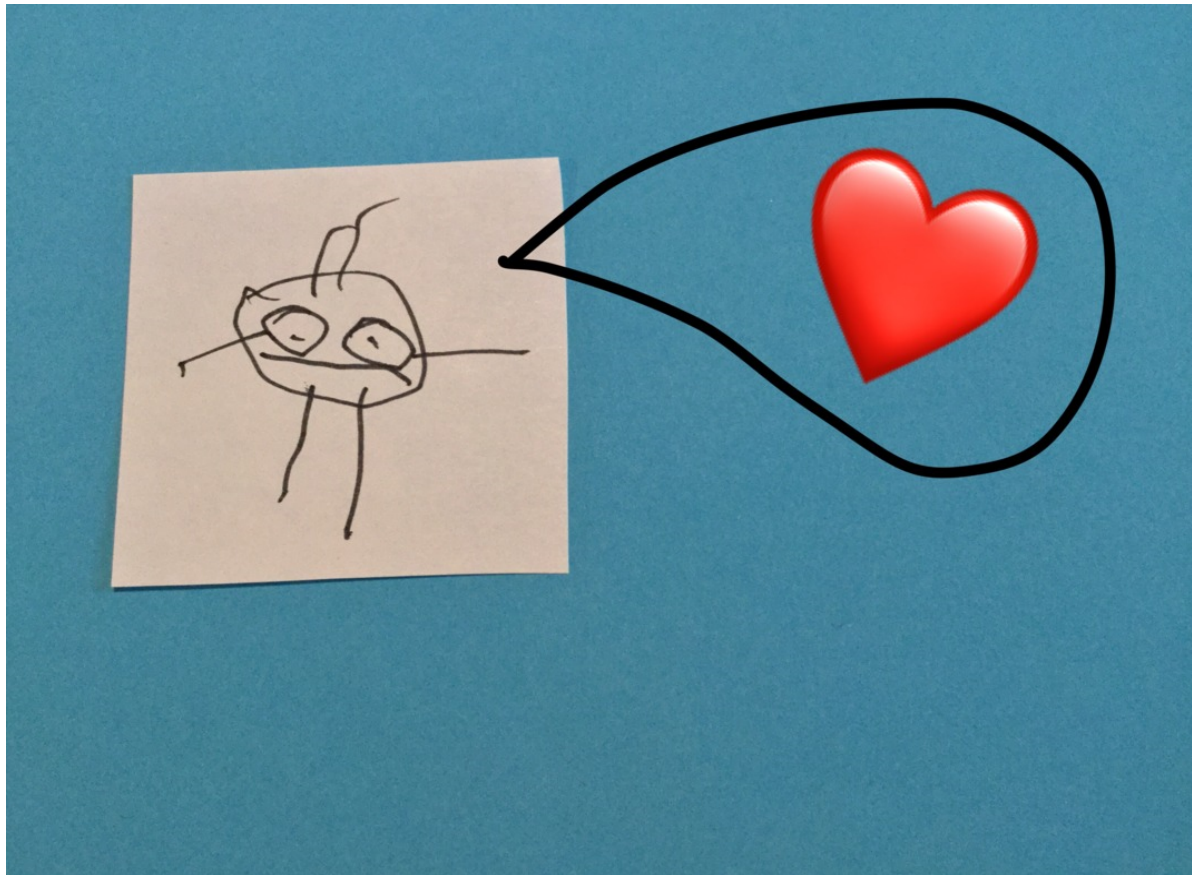


Figure 7. Our praise campaign: Passing positive and encouraging messages to each other.

Altogether, the contents of the children's digital portfolios resonate well with the goals of the Finnish ECE curriculum, which emphasises children's rights to play, learning by playing, joy and making sense of oneself and the surrounding world via wonder and investigation. The curriculum also underscores children's rights to express and share emotions in multiple ways and via multiple modes as well as to learn new skills and knowledge independently and in collaboration with others (National Board of Education, 2016). However, the significant differences in the amount of content in the children's digital portfolios across the children and ECE groups warrants attention, as these suggest inequalities among the children in the ways their lives, learning experiences and emotions were recognised, documented and reflected upon.

Next, we discuss the thematic and contrasting dimensions identified in the contents of the children's portfolios to highlight the possibilities and challenges in the use of digital portfolios as a means of participatory work in pedagogical documentation in the context of Finnish ECE.

Adult's agency and child's agency

While the digital portfolios dynamically captured the children's everyday lives, learning and emotional wellbeing in accordance with the goals set forth by the Finnish ECE curriculum, there was little evidence of the children's own agency in the construction and content of the portfolios. Hence, children's participatory work in pedagogical documentation was not always realised. By large, the content of the documentation was directed by the adult/teacher, hence evidencing strong teacher agency in acting as the prime and oftentimes the only author of the

child's portfolio content. Moreover, the data provide evidence of pre-planned situations captured in the digital portfolios, such as singing and exercise time. All the children in the same ECE group had a similar or the same picture or video in their personal portfolio. In sum, the children pictured themselves in many portfolios as passive objects rather than agentive actors in terms of their participation in designing and creating their portfolios.

In a few ECE groups, we found evidence of the children's participation and agency in the design and content development of the portfolios between the educator and the child. For instance, in one ECE group, each child had a folder on emotions that the child had constructed together with the adult. The documentation on the child's emotions took place on a flower-shaped poster. In the middle of the flower poster, there was a text that read, "This is who I am", underneath which appeared the child's name. The following topics were written on the petals of the flower: "The most fun thing at the ECE center is...."; "I will be happy when..."; "This is what I love to do the most...."; "I am good at...."; "This is what I love to do the most with my dad....."; "I will be sad when..."; "These are my favorite plays..."; "My strengths are..."; "I would like to learn more about..."; "My important friends are..."; and "This is what I love to do the most with my mom....". The ECE teacher had written down the child's responses to each of these topics.

Digital archiving and narration

From our analysis, we identified two contrasting dimensions in the use of the portfolios. On the one hand, the portfolios were used to archive the photos and videos without narrating the contents in the children's portfolios. On the other hand, there were digital portfolios that created a meaningful storyline from the content.

In its most simple form, narration was visible in the children's portfolios, which were thematically organised. These folders included titles such as "My important moments", "Learning stories and thinking" and "I in a group". In this same ECE group, the teachers edited digital pictures that documented the children's future goals. Using the pictures, each child depicted his or her dream, such as flying with the wings of an airplane, acting as an archaeologist on an excavation or driving a large Land Rover. In another ECE group, the educators created a blog which was available and visible for parents to comment upon. The blog consisted of pictures and short texts explaining the everyday life at the ECE center. The blog contrasted with the archived documentation, in which the portfolios consisted of only pictures with little explanation or attention to storying or reflection processes. Overall, the titling and written descriptions appeared to enhance the narrative potential of the digital portfolios.

The narrative nature of documentation in the digital portfolios was also manifested in the series of visual documents that pictured the processes of the children's crafting activities, watercolour painting or climbing a bunk bed to take a nap. These documents typically ended by showing the outcome and/or end product of the activity. For example, there was a series of pictures drawn by one child that were about herself and her family, as well as pictures that depicted how the child was learning to write her name. These pictures were accompanied by a short and simple title that helped the reader understand how the child was making sense of and developing within his or her sociocultural context. In one ECE group, the teachers constructed a blog that created an interpretative framework and context for the photos and videos and texts, thus enhancing the narrative nature of the digital portfolios.

Videos were also powerful for illuminating the narrative nature of the pedagogical documentation in the children's portfolios. For instance, a video clip could demonstrate the processes of learning to spell the letter R. Also, a child's process of learning how to do a somersault was demonstrated via several videos, thus highlighting how the child was developing a skill. In another ECE center, the digital portfolios consisted of videos of singing moments that were later edited to highlight the child's progression.

Documentation and reflection

Our results give evidence of a dynamic interplay between the use of portfolios for documentation and the use of portfolios for reflection. About two thirds of the 71 children had pictures and videos with explanatory text in their portfolios that demonstrated the child's reflection on their portfolios. One third of the portfolios did not give any evidence of the children's engagement in explaining or reflecting on their portfolios. In these cases, digital portfolios were used to document and archive digital content on children's lives in ECE and not as tools for reflection.

Reflection was evidenced by the children's own narrations of their portfolio content, with the educators acting as reporters of the children's storying. In these cases, the children's portfolios included texts such as, "I drew my dad, mom, big brother, sister and me. And a cat, and a baby cat. And a flower. Dad has a flower." In another portfolio, there was a photo taken from the child's favorite play that depicted a shelter made out of pillows and covers. The child's narration consisted of the following: "The shelter play is fun since we can play hide and seek. And play with soft toys. We can play home too. When the adult puts the roof on our shelter is its fun."

Videos were also effective for capturing the children's reflection activities. For instance, one ECE group developed "Reflection videos", which each lasted for about five minutes, that included the child's own reflection of his or her ECE activity, thoughts and feelings. Here, the adult and child watched, discussed, recalled and reflected upon the digital content together.

One ECE group constructed a joint collage regarding the topic of "All about my summer", and in the video the child reflected upon the major events that occurred during her summer vacation. In the video, the child is looking at the collage and explains its content: "Everything about my summer are demonstrated as well. I had eaten sausage, it was good. The sausage was grilled over a barbeque. V was visiting us overnight. We spent a night at Ähtäri. Sleeping at a hammock. Eating a nut and baking wafers. I like chocolate ice cream. At activity park jumping on a trampoline.

There were also other interesting five-minute videos that demonstrated how the children were developing their reflection and evaluation skills. For example, in one video the adult asks the child which situations she wants to document in her digital portfolio, or "treasure box". The adult and child also discuss and reflect on the content of the digital portfolio together:

Educator: Are you ok, if we look at your "treasure box" together?

Child: Jep!

Educator: Here are exercise videos from this week, do you remember?

Child: Mmm.

Educator: What does this picture tell about?

Child: When we did physical jerks with the rings.

Educator: And then...what's there?

Child: A tape.

Educator: Yeah, they call it a rope... whose there? You are doing so well there. And what did we do yesterday?

Child: We threw ball.

Educator: What else?

Child: Mmm, and then rubber boots.

Educator: Yeah, we threw rubber boots too.

The conversation regarding the content of the digital portfolio continues, and the adult asks, "How do you feel about watching these memories from these videos?" The child responds, "Good!" The educator then asks, "Have you watched these pictures with mum or dad?" The child's shakes her head, indicating no. Before the child continues, another mother enters the room and the reflection moment ends.

Neither the ECE teachers nor the parents were found to comment or reflect on the children's portfolios. Of the 71 portfolios in total, there was only one portfolio in which one parent commented on a picture of her child's artwork. Also, there was little, if any, evidence of joint reflection and analysis of the content of the portfolio material between the child, parent/guardian and the educator. Only two portfolios showed evidence of such collective reflection. These findings may be explained partially by the fact that the actual service that was used for the digital portfolios was inflexible and cumbersome to use, thus discouraging parents and children from participating, commenting and reflecting on the content. The platform that were chosen to be used in this development project required literacy of some kind. The children could not navigate without any reading skills and they seemed to need very often adult's help for adding pictures or videos. Clearly, the reasons for these findings warrant further research.

Discussion

In our chapter, we have discussed the use of digital portfolios in pedagogical documentation as a form of inclusive participatory practice in the cultural context of the Finnish ECE. Grounding our work in sociocultural theorising, we focused on the opportunities and challenges in the use of digital portfolios with young children in their early years education and specifically focused on children's participation and agency in this work. The empirical research that we drew upon in this chapter stems from a research and development programme initiated by three Finnish municipalities and their early years centres on the use of digital portfolios in their ECE. The development project was motivated by the need to develop ECE pedagogy, specifically the methods of pedagogical documentation for the enhancement of the quality of ECE, ensuring children's participation and equal educational opportunities.

Our research demonstrates how digital portfolios can highlight the richness of children's activities, interests and emotions, as well as learning and development processes. In many cases the digital portfolio content did not entail extraordinary or extreme experiences, but rather, just the opposite. In many cases, the portfolios documented small but seemingly important moments in the lives of the children. In accordance with our earlier research, we can conclude that the events and activities captured in the children's portfolios could have easily gone unnoticed if they were not captured in the portfolios (Kumpulainen, Lipponen, Hilppö, & Mikkola, 2014).

Our study also shows that digital portfolios have great potential to be more than archiving tools. As illuminated in some cases of our study, portfolios can tell rich and multi-layered stories behind ECE activities and children's participation in these activities. These portfolio contents can capture the narrative and aesthetic dimensions of children's everyday lives, which are situated in

sociocultural contexts. In these situations, the children were invited to move between the past, the present and the future to compose their life stories and describe the significant events in those stories. Hence, the narratives of the children's lives and experiences were brought into existence for collective memorisation, analysis and reflection. In sum, we conclude that digital portfolios offer children and adults rich means of bringing light upon the everyday life of their engagement in ECE which, again, can result in new meanings, emotions and experiences for everyone involved.

Yet, at the same time, our research indicates the complexity and challenges of using digital portfolios in ECE for inclusive participatory work. The results of our study show that while digital portfolios created diverse and rich opportunities for pedagogical documentation of the children's everyday lives, learning and emotional wellbeing in accordance with the goals set forth by the Finnish ECE curriculum, there was little evidence of the children's own participation and agency in the construction of the portfolios. Despite the possibilities of digital portfolios, our data show many instances in which the digital portfolios were adult-directed and used for archiving rather than for collective interaction, reflection and learning between the child, ECE teachers and parents/guardians. Altogether, our results show how pedagogical documentation and the construction of digital portfolios entailed a dynamic tension between the adults' and child's agency; between digital archiving and narrative documentation of children's lived experiences; and between digital documentation and reflection.

The results also show major differences in the contents and use of digital portfolios across the ECE groups and children, which suggest that the children were seen and heard differently depending on the child and in which group the child was part of. Hence, the results indicate how the digital portfolios created inequality among the children in terms of the ways in

which they were seen and heard and how they could participate in constructing and reflecting upon their portfolios. Our study also gives evidence of quality differences in the ways the ECE educators used digital portfolios as tools of participatory work in pedagogical documentation. Our study emphasises recognising the importance of pedagogical expertise among ECE personnel in the use of digital portfolios as tools of pedagogical documentation for the benefit of every child's participation, learning and development. Recognising every child's agency and opportunities for participation and reflection in the construction and use of digital portfolios, calls for pedagogical expertise, creativity and digital skills from the educators.

In Finland, ECE educators are expected to tailor ECE to each child. Educators are charged to recognise barriers to participation, challenge practices that support inequity and find ways to maximise learning opportunities for all children. Clearly, these expectations require that those working in ECE services are strong and capable professionals. The creation of supportive social contexts based on trust, appreciation and authentic interest in children's experiences and learning lives is of utmost importance in constructing portfolio work and pedagogical documentation in ECE that is based on participatory work.

Educators occupy a central role in creating ECE pedagogy that empowers children's participation and agency for the advancement of children's learning and holistic development (Edwards, 2007; Johnsson, 2008; Lipponen & Kumpulainen, 2011; Pace & Hemmings, 2007). In order to create opportunities for children's participation and agency to document and reflect upon their life worlds, a new type of relationship that grants agency to children and uses children's lived experiences as a starting point for ECE is needed. This calls for the reconfiguration of ECE practices away from teacher-authored activities, and sensitivity in guiding portfolio practices towards enhancing children's participation and agency

(Kumpulainen & Lipponen, 2010). The children should not only be positioned by adults, but they should also be granted opportunities for agency in directing and composing their portfolios. This child-centred approach requires strong teacher professionalism to make the shift possible.

Questions for Reflection

- Why does Finnish ECE underscore participatory work with children and families?
- How can ECE teachers promote children's and their guardians' participation and agency in pedagogical documentation via digital portfolios?
- What challenges are identified in the construction of digital portfolios for inclusive participatory work in the Finnish ECE?

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